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each of the injection unit for the band rubber parts supply process and the injection unit for the tread rubber parts supply process is a plunger type injection unit in which there is accommodated, for the respective rubber parts, a rubber amount corresponding at least to the specification of the formed tire.

8. (Twice Amended) A tire forming method set forth in claim 6, wherein each of the injection unit for the band rubber parts supply process and the injection unit for the tread rubber parts supply process is a plunger type injection unit in which there is accommodated, for the respective rubber parts, a rubber amount corresponding at least to the specification of the formed tire.

REMARKS

Claims 1-8 are pending in the application. By this Amendment, claims 1, 5, 7 and 8 are amended.

Claims 1, 3-5, 7 and 8 are rejected under 35 U.S.C. 103(a) as unpatentable over Irie (U.S. Patent No. 4,468,267) in view of Aihara et al. (Japan 59-93345), Brown et al. (U.S. Patent No. 5,554,242), Laurent (U.S. Patent No. 4,963,207), Okada et al. (EP 958,913) and, optionally, Caretta (EP 875,346). The rejection is respectfully traversed for the additional reasons discussed below.

Claim 1 is directed to a tire forming system that includes a band forming machine, a shaping forming machine, a belt/tread forming machine, means for supplying a band member and means for supplying a belt/tread member. Claim 1 recites that the means for supplying the band member and means for supplying the belt/tread member are operative to cooperate with one another to continuously in series form a plurality of tires having different tire sizes yet a same bead inner diameter.

It is respectfully submitted that none of the applied art, alone or in combination, teaches or suggests the features of claim 1. Specifically, the applied art fails to teach or suggests means for supplying a band member and means for supplying a belt/tread member that are operative to cooperate with one another to continuously in series form

a plurality of tires having different tire sizes yet a same bead inner diameter. Thus, it is respectfully submitted that one of ordinary skill in the art would not be motivated to combine the features of the applied art because such combination would not result in the claimed invention. Therefore, it is respectfully submitted that claim 1 is for this additional reason allowable over the applied art

Claim 5 is directed to a tire forming method using a tire forming system that includes the components recited in claim 1. Claim 5 recites that the tire forming system is operative to continuously in series form a plurality of tires having different tire sizes yet a same bead inner diameter.

It is respectfully submitted that none of the applied art, alone or in combination, teaches or suggests the features of claim 5. Specifically, none of the applied art teaches or suggests a tire forming system that is operative to continuously in series form a plurality of tires having different tire sizes yet a same bead inner diameter. Thus, it is respectfully submitted that one of ordinary skill in the art would not be motivated to combine the features of the applied art because such combination would not result in the claimed invention. Therefore, it is respectfully submitted that claim 5 is for this additional reason allowable over the applied art.

Claims 3 and 4 depend from claim 1 and include all of the features of claim 1. Claims 7 and 8 depend from claim 5 and include all of the features of claim 5. Thus, it is respectfully submitted that the dependent claims are allowable at least for the reasons the independent claims are allowable as well as for the features they recite.

Withdrawal of the rejection is respectfully requested.

Claims 7 and 8 are amended for clarification purposes.

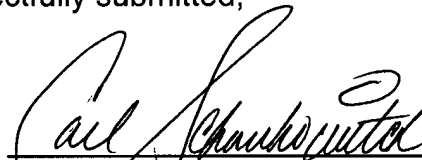
In view of the foregoing, reconsideration of the application and allowance of the pending claims are respectfully requested. Should the Examiner believe anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' representative at the telephone number listed below.

Should additional fees be necessary in connection with the filing of this paper or if a Petition for Extension of Time is required for timely acceptance of the same, the Commissioner is hereby authorized to charge Deposit Account No. 18-0013 for any such fees and Applicant(s) hereby petition for such extension of time.

Respectfully submitted,

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Enclosure(s): Appendix I (Marked-up Version of Amended Claims)

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APPENDIX I

(MARKED-UP VERSION OF AMENDED CLAIMS)

1. (Twice Amended) A tire forming system including a band forming machine, a shaping forming machine and a belt/tread forming machine, in each of which setting conditions of a tire size can be optionally changed, and having transport means for delivering a semi-fabricated product to each forming machine, wherein as means for supplying a band member there are provided:

(1) inner liner supply means for cutting a inner liner sheet material having a width, in which a splice margin is added to a band periphery length, to a length corresponding to a specification width of a formed tire, and supplying the cut inner liner to the band forming machine;

(2) carcass supply means for cutting a carcass sheet material having a width, in which a splice margin is added to a band periphery length, to a length corresponding to a specification width of the formed tire, and supplying the cut carcass to the band forming machine;

(3) band rubber parts supply means for injecting a rubber strip from an injection unit, winding the rubber strip around a drum of the band forming machine, and forming, on the basis of its laminated structure, rubber parts having a profile corresponding to a specification of the formed tire; and

(4) bead supply means for supplying a completed bead corresponding to a specification of the formed tire to the band forming machine through a bead setter; and

as means for supplying a belt/tread member there are provided:

(5) belt supply means for cutting a belt strip material, in which plural cords are arranged and rubberized, to predetermined length and angle, mutually splicing edge portions of the plural cut strip pieces to form a belt for one tire, which has a length, a cord angle and a width corresponding to specifications of the formed tire, and supplying the belt to the belt/tread forming machine; and

(6) tread rubber parts supply means for injecting a rubber strip from an injection unit, winding the rubber strip around a drum of the belt/tread forming machine, and forming, on the basis of its laminated structure, rubber parts having a profile corresponding to a specification of the formed tire,

wherein the means for supplying the band member and the means for supplying the belt/tread member are operative to cooperate with one another to continuously in series form a plurality of tires having different tire sizes yet a same bead inner diameter.

5. (Twice Amended) A tire forming method using a tire forming system including a band forming machine, a shaping forming machine and a belt/tread forming machine, in each of which setting conditions of a tire size can be optionally changed, and having transport means for delivering a semi-fabricated product to each forming machine, wherein as a process for supplying a band member there are provided:

(1) an inner liner supply process for cutting a inner liner sheet material having a width, in which a splice margin is added to a band periphery length, to a length corresponding to a specification width of a formed tire, and supplying the cut inner liner to the band forming machine;

(2) a carcass supply process for cutting a carcass sheet material having a width, in which a splice margin is added to a band periphery length, to a length corresponding to a specification width of the formed tire, and supplying the cut carcass to the band forming machine;

(3) a band rubber parts supply process for injecting a rubber strip from an injection unit, winding the rubber strip around a drum of the band forming machine, and forming, on the basis of its laminated structure, rubber parts having a profile corresponding to a specification of the formed tire; and

(4) a bead supply process for supplying a completed bead corresponding to a specification of the formed tire to the band forming machine through a bead setter; and

as a process for supplying a belt/tread member there are provided:

(5) a belt supply process for cutting a belt strip material, in which plural cords are arranged and rubberized, to predetermined length and angle, mutually splicing edge portions of the plural cut strip pieces to form a belt for one tire, which has a length, a cord angle and a width corresponding to specifications of the formed tire, and supplying the belt to the belt/tread forming machine; and

(6) a tread rubber parts supply process for injecting a rubber strip from an injection unit, winding the rubber strip around a drum of the belt/tread forming machine, and forming, on the basis of its laminated structure, rubber parts having a profile corresponding to a specification of the formed tire,

wherein the forming system is operative to continuously in series form a plurality of tires having different tire sizes yet a same bead inner diameter.

7. (Twice Amended) A tire forming method set forth in claim 5, wherein each of the injection unit for the band rubber parts supply ~~means-process~~ and the injection unit for the tread rubber parts supply ~~means-process~~ is a plunger type injection unit in which there is accommodated, for the respective rubber parts, a rubber amount corresponding at least to the specification of the formed tire.

8. (Twice Amended) A tire forming method set forth in claim 6, wherein each of the injection unit for the band rubber parts supply ~~means-process~~ and the injection unit for the tread rubber parts supply ~~means-process~~ is a plunger type injection unit in which there is accommodated, for the respective rubber parts, a rubber amount corresponding at least to the specification of the formed tire.